Amendments to the Claims:

Please substitute the following clean copy text for the pending claims of the same number.

1. (Currently amended) A bone graft suitable to augment an alveolar ridge, ~~wherein~~ the bone graft comprising: ~~comprises~~ an at least partially alveolar ridge-shaped graft formed of at least one of the group consisting of a synthetic material or demineralized bone matrix, the at least partially alveolar ridge-shaped graft in a rigid form manufactured to approximately mate with a void on said alveolar ridge.

2. (Currently amended) The bone graft of claim 1, wherein the at least partially alveolar ridge-shaped bone graft comprises a crestal region suitable to augment a crest of the alveolar ridge and a first side region suitable to augment a first side of the alveolar ridge.

3. (Currently amended) The bone graft of claim 2, wherein the crestal region has a flat portion, situated to face ~~facing~~ the alveolar ridge.

4. (Currently amended) The bone graft of claim 2, wherein the crestal region has a curved portion, situated to face ~~facing~~ the alveolar ridge.

5. (Currently amended) The bone graft of claim 2, wherein the crestal region has an

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internally angled portion, situated to face ~~facing~~ the alveolar ridge.

6. (Original) The bone graft of claim 2, wherein the bone graft further comprises a second side region suitable to augment a second side of the alveolar ridge.

7. (Original) The bone graft of claim 1, wherein the bone graft is suitable to augment the alveolar ridge space represented by one or two missing teeth.

8. (Original) The bone graft of claim 1, where the shape or dimensions of the bone graft are chosen based on dimensions of bone in a particular patient.

9. (Original) The bone graft of claim 1, wherein the shape or dimensions of the bone graft are chosen based on radiographic data from a particular patient.

10. (Original) The bone graft of claim 1, wherein the bone graft has external surfaces facing adjacent natural bone in a patient, which coincide with the adjacent natural bone to within a tolerance of less than 0.4 mm.

11. (Original) The bone graft of claim 1, wherein the bone graft comprises non-bone-facing surfaces suitable to provide a desired contour of gingiva after augmentation.

12. (Original) The bone graft of claim 1, wherein the bone graft comprises non-bone-facing surfaces having a porosity less than the porosity of a bone-facing surface on

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the bone graft.

13. (Currently amended) The bone graft of claim 1, ~~wherein the bone graft comprises~~ further comprising at least one hole corresponding to an intended position of an implant base.

14. (Currently amended) The bone graft of claim 1, ~~wherein the bone graft comprises~~ further comprising at least one hole corresponding to an intended position of an attachment device.

15. (Currently amended) The bone graft of claim 1, ~~the bone graft comprises~~ further comprising a matrix of particles joined to each other forming a three dimensionally interconnected network, the matrix has pores wherein the distribution of pore volume as a function of pore size has a mode between 10 micrometers and 25 micrometers.

16. (Original) The bone graft of claim 14, wherein the matrix has a porosity between approximately 0.2 and approximately 0.6.

17. (Original) The bone graft of claim 1, wherein the bone graft comprises a ceramic.

18. (Original) The bone graft of claim 1, wherein the bone graft comprises at least one substance selected from the group consisting of hydroxyapatite, tricalcium phosphate and other calcium-phosphorus compounds.

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19. (Original) The bone graft of claim 1, wherein the bone graft comprises nonresorbable material.

20. (Original) The bone graft of claim 1, wherein the bone graft comprises resorbable material.

21. (Original) The bone graft of claim 1, wherein the bone graft comprises both nonresorbable and resorbable materials.

22. (Original) The bone graft of claim 1, wherein the bone graft comprises both nonresorbable and resorbable materials in varying proportions in preselected places within the bone graft.

23. (Original) The bone graft of claim 1, further comprising channels which extend into an interior.

24. (Original) The bone graft of claim 1, further comprising channels or patterns on a surface.

25. (Original) The bone graft of claim 1, wherein the bone graft comprises a bone-facing surface having a surface geometry which is different from a geometry at another place in the bone graft.

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26. (Original) The bone graft of claim 1, wherein the bone graft comprises a bone-facing surface having a surface composition which is different from a composition at another place in the bone graft.

27. (Original) The bone graft of claim 1, wherein the bone graft comprises a bone-facing surface having a surface geometry suitable to promote osseointegration.

28. (Original) The bone graft of claim 1, wherein the bone graft comprises a bone-facing surface having a surface composition suitable to promote osseointegration.

29. (Original) The bone graft of claim 1, further comprising osteoconductive or osteoinductive substances.

30. (Original) The bone graft of claim 1, further comprising substances from a patient's own blood, other biological substances or demineralized bone matrix, osteo-active additives, osteogenic additives, growth factors, peptides, bone morphogenic proteins, autogenous growth factors, or platelet rich plasma.

31. (Original) The bone graft of claim 1, further comprising a polymer.

32. (Original) The bone graft of claim 31, wherein the polymer is a comb polymer.

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33. (Original) The bone graft of claim 31, wherein the polymer is resorbable.

34. (Original) The bone graft of claim 31, wherein the polymer is non-resorbable.

35. (Original) The bone graft of claim 1, wherein the bone graft is sterile.

36. (Original) The bone graft of claim 1, wherein the bone graft is manufactured at least in part by three dimensional printing.

37. (Currently amended) A bone graft suitable to augment an alveolar ridge, ~~wherein~~ the bone graft ~~comprises~~ comprising: an at least partially alveolar ridge-shaped graft formed of at least one of the group consisting of a synthetic material or demineralized bone matrix in a rigid form, having ~~and has~~ a composition which is different from one place to another within the bone graft.

38. (Original) The bone graft of claim 37, wherein the bone graft comprises particles joined together to form a three dimensionally interconnected matrix, and the composition of the matrix is different from one place to another within the bone graft.

39. (Original) The bone graft of claim 37, wherein the bone graft matrix further includes additives, wherein a composition of the additives varies from one place to another within the bone graft.

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40. (Withdrawn) A method of installing a bone graft to augment an alveolar ridge, comprising: manufacturing to specific dimensions and/or shape a bone graft comprising a rigid synthetic material or demineralized bone matrix the bone graft including predetermined apertures for anchoring the bone graft to the ridge; resecting gingiva; and installing, in contact with the alveolar ridge, the bone graft.

41. (Withdrawn) The method of claim 40, wherein the bone graft has at least one dimension which is selected based on characteristics of a particular site in a particular patient.

42. (Withdrawn) The method of claim 40, wherein at least one dimension of the bone graft is determined using radiographic data.

43. (Withdrawn) The method of claim 40, wherein the bone graft has at least one dimension which is selected based on a dimension of the implant base.

44. (Withdrawn) The method of claim 40, wherein installing the bone graft comprises cutting using a bone-cutting tool.

45. (Withdrawn) The method of claim 40, wherein installing the bone graft comprises cutting using a non-bone-cutting tool which is capable of cutting soft tissue but incapable of cutting bone.

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46. (Withdrawn) The method of claim 40, further comprising, before installing the bone graft, applying a formable filler material between the bone graft and the alveolar ridge.

47. (Withdrawn) The method of claim 40, wherein installing the bone graft comprises attaching the bone graft.

48. (Withdrawn) The method of claim 40, wherein installing the bone graft comprises installing an implant base through the bone graft and into the alveolar ridge.

49. (Withdrawn) The method of claim 48, wherein installing the implant base comprises using an implant base template which is unique to a particular patient.

50. (Withdrawn) The method of claim 49, wherein at least one dimension of the implant base template is determined using radiographic data.

51. (Withdrawn) The method of claim 40, further comprising, before installing the bone graft, applying antiseptic and/or antibiotic.

52. (Withdrawn) The method of claim 40, further comprising, after installing the bone graft, applying a surgical membrane.

53. (Withdrawn) The method of claim 40, further comprising, after all of the other

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steps, putting the resected gingiva back in place.

54. (Withdrawn) A method of installing a bone graft to augment an alveolar ridge, comprising: resecting gingiva; and installing, adjacent to the alveolar ridge, a rigid bone graft; and installing an implant base in the bone graft and the alveolar ridge using an implant base template which is unique to a particular patient.

55. (Withdrawn) The method of claim 54, wherein at least one dimension of the implant base template is determined using radiographic data.

56. (Withdrawn) A method of manufacturing a bone graft for augmenting an alveolar ridge, comprising: depositing successive layers of a powder; and printing a binder to form a three dimensional article suitable to at least approximately fit the dimensions of a resorbed or missing portion of the alveolar ridge.

57. (Withdrawn) The method of claim 56, wherein the powder comprises demineralized bone matrix.

58. (Withdrawn) The method of claim 56, wherein the powder comprises ceramic.

59. (Withdrawn) The method of claim 58, wherein the depositing of the powder is performed so that at least one characteristic of the powder differs from one place to another within the bone graft.

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60. (Withdrawn) The method of claim 58, further comprising, after the three dimensional printing, heating the article sufficiently to partially sinter the powder together.

61. (Withdrawn) The method of claim 56, further comprising, after all the described steps, introducing an additional substance into pores of the bone graft.

62. (Withdrawn) The method of claim 61, wherein the additional substance comprises substances from a patient's own blood, other biological substances or demineralized bone matrix, osteo-active additives, osteogenic additives, growth factors, peptides, bone morphogenic proteins, autogenous growth factors, or platelet rich plasma.

63. (Withdrawn) The method of claim 61, wherein the additional substance is deposited so as to have a nonuniform composition or concentration from one place to another in the bone graft.

64. (Withdrawn) An article manufactured by the method of claim 56.

65. (Withdrawn) A kit for installing a bone graft in an alveolar ridge, comprising: at least one bone graft having bone graft dimensions which are unique to a particular patient, and at least one cutting tool.

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66. (Withdrawn) The kit of claim 65, wherein at least one bone graft dimension is coordinated with dimensions of the alveolar ridge.

67. (Withdrawn) The kit of claim 65, further comprising a patient-unique implant base template suitable to guide an installing of an implant base.

68. (Withdrawn) The kit of claim 65, wherein the bone graft comprises synthetic material.

69. (Withdrawn) The kit of claim 65, wherein the kit comprises at leas t one tool capable of cutting bone and at least one tool which is incapable of cutting bone.

70. (Withdrawn) The kit of claim 65, further comprising at least one additional article selected from the group consisting of: a carrier for gripping the bone graft, templates, surgical screws, tools for installing surgical screws, formable filler material, antiseptics, antibiotics, a surgical membrane, and sutures.

71. (Withdrawn) The kit of claim 65, wherein at least some articles in the kit are sterile.

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